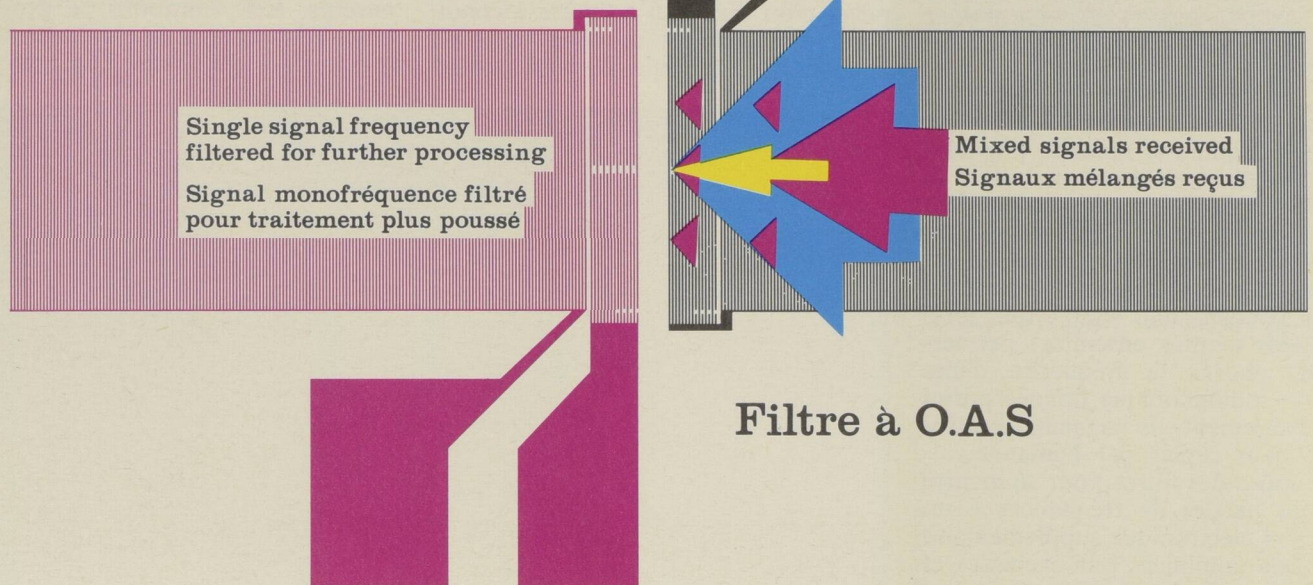


the S.A.W. filter

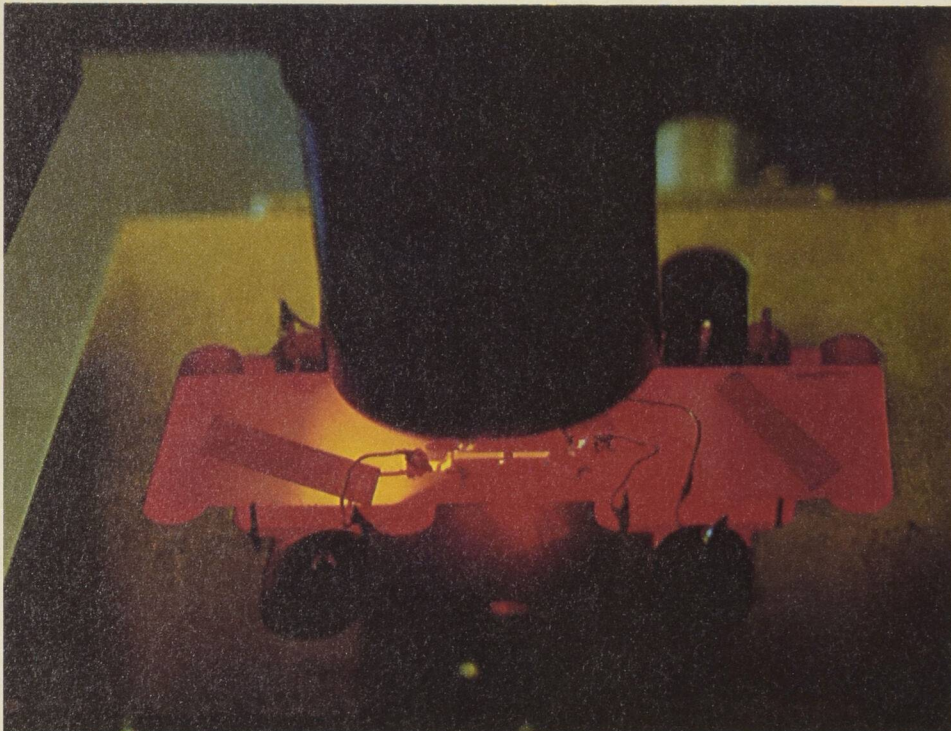


John Brittain

A SAW filter operates by converting electrical signals into sound waves on a crystal surface. Only those signals for which the device is tuned are allowed to pass onto the next stage of an electronic circuit.

Le filtre à OAS assure la transformation des signaux électriques en ondes sonores à la surface d'un cristal. Ce dispositif ne permet qu'à certains signaux, appartenant à une fréquence donnée, de passer à un stade supérieur dans le circuit électronique.

Filtre à O.A.S



Bruce Kane, NRC/CNRC

In addition to design and construction of SAW filters, this research project involves an exhaustive examination of the finished devices and their performance capabilities.

Ce projet de recherche implique non seulement l'étude et la réalisation de filtres à OAS mais également le contrôle du produit fini et de ses performances.

an airplane's range the electronics in a radar set require a very narrow signal. If the planes are at a great distance from the radar antenna then such a signal must be sent with high power and engineers become faced with the design of high peak power transmitters. A way out of this dilemma is to send a "chirped" pulse (one of varying frequency) whose echo is then converted into a narrow signal to derive range information. Such a procedure can best be performed by a SAW filter which is adapted to generate and process signals of different "shapes".

SAW devices also find their way into modern security equipment for generating "unjammable messages". The message for transmission is "spread out" over a wide frequency range by a SAW device. Broadcast in this form, the message would appear as random electrical "noise" to a monitoring station. If it is passed through an exactly matched SAW device, however, the electronic jumble is automatically converted back into an intelligible signal.

Although SAW devices are new and their full exploitation lies around the corner, Dr. Akitt feels they represent one of the most exciting developments of modern electronics. And, allowing for the speed with which electronic innovations come onto the market, it may not be long before your own TV set is improved by a SAW filter. □

David Peat